

SYDNEY'S SNAKES, PART 3.

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FAMILY ELAPIDAE

Pale-headed snake, *Hoplocephalus bitorquatus* (Jan, 1859). Photo 19.

Description

This moderately built snake has a uniform light brown or grey body. It has a broad white or cream band on the nape. This band is bordered behind by a narrow blackish bar, which may be solid or broken in the middle. The top of the head is grey. The belly is creamy grey, sometimes with darker flecks. The scales are smooth with 19 or 21 mid body rows, 190-225 ventrals, 40-65 single subcaudals and a single anal. This snake averages 50 cm in length but may attain 80 cm.

Distribution

Comes within 75 km of the Sydney city centre, on the north side. Found in the coastal rainforests north of Ourimbah. The only secure population in this area is that which inhabits the Ourimbah/Wattagan Ranges state forests (See Photo 19). Common in parts of Queensland, including savannah country to the west of Rockhampton.

General

The Pale-headed snake is rarely found anywhere near Sydney. Like all snakes in the genus *Hoplocephalus* it is highly aggressive and moderately venomous, though not considered dangerous. Symptoms of the bite are usually only local, or if general, are not severe.

This nocturnal species is usually located when spotted at night moving on tree trunks with flashlights, by people looking specifically for them. By day it resides in tree hollows which are effectively inaccessible. Pale-headed snakes feed on any available vertebrates, which they kill with their venom.

This snake mates in the cooler months and produces from five to ten live young in mid summer. The young measure 16 cm at birth. Captive specimens have been known to live in excess of ten years and readily take mice if the snakes are large enough.

Broad-headed snake, *Hoplocephalus bungaroides* (Schlegel, 1837). Photo 20.

Description

This snake is of moderate built with a head distinct from the body. Dorsally it is jet black with a series of yellow scales forming a beaded pattern of irregular crossbands across the body. The ventral surface is greyish to bluish black. The labials have vertical yellow and black stripes. The scalation is smooth with 21 mid body rows, 200-221 ventrals, 40-60 single subcaudals, and a

single anal. This snake averages 60 cm in length but may exceed a metre. This snake is commonly confused with the harmless Diamond python (*Morelia spilota*).

Distribution

This snake is confined to the sandstone formations to the west and south of the city. It is absent from apparently suitable habitat to the north of the city, and this species is in decline in most areas close to Sydney, due to habitat destruction. It is most common around the upper Blue Mountains and Wollongong.

General

This highly aggressive snake bites with little provocation. When disturbed this snake immediately raises its forebody in an S-shape and will strike at anything coming within range. Although not deadly this snake should be treated with caution, as typical symptoms from its bite include local swelling, sweating fits, dizziness and nausea.

During the summer this snake appears to be arboreal, living in tree hollows. In the cooler months, when most specimens are caught, the Broad-headed snake is usually found under large slabs of sandstone on rock outcrops or in rock crevices. This snake is most common on top of large cliff formations in isolated areas.

Broad-headed snakes are mainly nocturnal, although they are diurnal in mid winter; a reflection of the fact that they usually occur in cold places, such as the upper Blue Mountains. Broad-headed snakes are opportunistic feeders, mainly feeding on Lesueur's geckoes (*Oedura leseuri*), in the wild. This snake mates in the cooler months and produces from five to twelve live young, (usually about six) in mid summer. The young measure 16 cm at birth.

Stephen's banded snake, *Hoplocephalus stephensi* Krefft, 1869. Photo 21.

Description

This moderately built snake has a head distinct from the neck and body. It is usually brown to yellowish dorsally with a series of irregular broad dark cross bands two to three times as broad as the lighter interspaces. Some specimens may occasionally lack bands. The head is black with a brown crown and a yellowish patch on either side of the nape. The belly is black towards the tail. The scalation is smooth with 21 mid body rows, 220-250 ventrals, 50-70 single subcaudals, and a single anal. This snake averages 50 cm in length, but may exceed 70 cm. 'Unbanded' specimens may be confused with the Broad-headed snake (*Hoplocephalus bungaroides*). 'Unbanded specimens are found in parts of the New South Wales central coast about 100 km north of Sydney GPO.

Distribution

The Stephen's banded snake is found in coastal rainforests north of Gosford. Near Sydney it is most common in the Ourimbah/Wattagan Ranges state forests. Although found essentially wherever suitable habitat occurs to south-east Queensland the species is probably most common in south-east Queensland in National Park areas such as Mount Glorious area near Brisbane where it is common.

General

The Stephen's banded snake is aggressive by nature attacking anything that disturbs it. Its venom causes symptoms such as double vision, cold sweats and nausea, and therefore the Stephen's banded snake should be treated with caution.

The habits of the Stephen's banded snake are similar to those of the Pale-headed snake (*Hoplocephalus bitorquatus*). This arboreal nocturnal species is usually found by day sheltering in logs or under bark on trees, or if found at night, crossing rainforests roads. The true abundance of the Stephen's banded snake is not known.

Stephen's banded snakes feed on assorted vertebrates, killed by their venom. They mate in the cooler months producing about six live young in summer. The young measure 16 cm at birth.

Bandy Bandy, *Vermicella annulata* (Gray, 1841). Photo 22.

Description

This snake is readily identified by the alternating black and white bands completely encircling the body; the black rings normally being the wider of the two. The Bandy Bandy has a short obtuse snout and a head not distinct from the neck. It has a short blunt tail and is of fairly even thickness throughout its length. It is of moderate build.

The scalation is smooth with 15 mod body rows, 180-230 ventrals, 14-28 paired subcaudals, and a paired anal. This snake's average length is 60 cm although it occasionally attains 90 cm.

Distribution

The Bandy Bandy is found throughout the Sydney region. It is very common in the National Parks to the north, west and south although rarely seen.

General

The Bandy Bandy is found in all types of habitat. It is usually found during the day under cover or on mild nights moving around above the ground surface. Its preferred night surface activity temperature appears to be 22°C, around Sydney. When caught this snake is usually nervous, knotting itself around one's hand like a worm snake (*Typhlopidae*), although it rarely attempts to bite. The venom is of little consequence to humans. If suddenly alarmed this snake may flatten its body and elevated parts in loops in a bluff display. This display position can be maintained for some time.

The diet consists of worm snakes (*Typhlopidae*) and small skinks. This snake seems to require relatively little food over periods of time, presumably in reflection of its slow metabolic rate. Dissection of a large number of museum specimens by Richard Shine revealed little in terms of food remains in the guts of specimens.

The breeding biology of the Bandy Bandy is virtually unknown, except for the fact that it is oviparous, producing four to five eggs in the warmer months. Young measure 17.5 cm at birth.

DANGEROUS SNAKES (FAMILY ELAPIDAE)

Death adder, *Acanthophis antarcticus* (Shaw & Nodder, 1802). Photo 23.

Description

The Death adder is distinctly shaped with a broad triangular head, distinct from the body and extremely thick set body, and relatively short tail terminating in a small curved spine. In Sydney this easily identified snake is either red or grey dorsally, (base colour) with alternating darker and lighter crossbands. Red specimens have a mainly salmon coloured belly with darker flecks, whilst grey specimens have a whitish belly with much grey mottling. The red colour phase is the result of a dominant allele (type of gene). The tail tip may be black, brown, grey, yellow or white with orange and white flecks. The scales are slightly keeled with 21 mid body rows, 110-30 ventrals, 40-55 subcaudals of which nearly half are paired, and a single anal. Male Death adders average 60 cm in length but large females have been known to exceed a metre in length.



Foto 18: *Hoplocephalus bitorquatus* (Jan, 1859), pale-headed snake, bleekkop slang, Moonie, Qld; foto R.T. Hoser.



Foto 19: Ourimbah State Forest, + 80 km north of Sydney; Stephens' banded snakes are found here. Stephens' gebandeerde slang wordt hier gevonden; foto R.T. Hoser.

Distribution

The Death adder is restricted to virgin bushland throughout the Sydney area. They are most common in National Parks. The closest to the city centre that they occur (at the time of writing 1990), is North Head and Bantry Bay.

General

The Death adder has the most effective biting mechanism of any Australian snake, and has a highly neurotoxic venom. Before the development of suitable antivenom roughly 60% of all recorded Death adder bites were fatal. Although not aggressive as such, Death adders will strike with great accuracy at anything coming within range. If irritated this snake may flatten its body to an amazing degree.

This solitary snake occurs in a wide variety of habitats although it is most common in low shrub localities with plenty of leaf litter. This species is mainly nocturnal, and is most active on hot nights preceding cold southerly changes. Most specimens are found crossing roads on nights when the air temperature is in excess of 23°C, particularly when high and dropping rapidly.

Most specimens caught are mature males looking for mates, although studies indicate that equal numbers of each sex are born, and males probably have higher mortality rates when adult due to their increased mobility.

The food of this snake consists of all suitable vertebrates, including birds, which it often catches by wriggling its tail as a lure. The food item such as a bird will swoop in for its worm or insect (which is actually the snake's tail), and be caught by the snake whilst doing so. Death adders can catch low flying birds in mid air.

Mating occurs at any time of year, although mainly in spring and autumn. From three to thirty live young are born in late summer every second year by most females. Occasional females reproduce every year.

The young which are brightly coloured replicas of their parents may be both red and grey within a single brood and average 15 cm in length at birth. The determination of which base colour the snakes are is determined by the presence of the relevant alleles. Red is the dominant allele, therefore all snakes heterozygous for red and grey are red. Contrary to popular belief, there does not appear to be a strong correlation between ground colour and most common base colour around Sydney. Most areas seem to have roughly even percentages of each base colour, with few areas seeming to have more than 70% of snakes of one particular base colour (based on samples of more than twenty snakes).

Captive breeding results of this species seems to indicate some sperm-storage ability of at least a few months and perhaps up to a year to a limited extent, although further investigations are needed to confirm preliminary findings. (Based on 1984 breeding results of snakes held by myself and those of others).

Highland copperhead, *Austrelaps ramsayi* (Krefft, 1864). Photo 24.

Description

This heavily built snake has a head which is only slightly distinct from the neck and body. Near Sydney its colour is highly variable, even in the same localities. It ranges from brown black to reddish dorsally with either yellow, red or orange lateral scales that may be edged with a whitish checkering. The belly is yellowish to grey becoming darker towards the rear. The labials have thin white stripes. At birth, Sydney Copperheads are nearly black in colour, usually becoming lighter with age. The scalation is smooth with 15 mid body rows, 140-160 ventrals, 40-55 single subcaudals, and a single anal. Copper-heads average a metre in length and rarely exceed 1.3 m near Sydney.



Foto 20: *Hoplocephalus bungaroides* (Schlegel, 1837), broad headed snake, breedkop slang, Lawson, NSW; foto R.T. Hoser.



Foto 21: *Hoplocephalus stephensi* (Krefft, 1869), Stephens' banded snake, Stephens' gebandeerde slang, Ourimbah, NSW; foto R.T. Hoser.

Distribution

Near Sydney, Copperheads are only found in the high country to the south and west of the city at altitudes above 600 m. They are common at Wentworth Falls in the Blue Mountains.

General

The Copperhead is frequently confused with the Black snake (*Pseudechis porphyriacus*) and Tiger snake (*Notechis scutatus*), and its venom is similar in constitution to that of the latter, being neutralised by the same anti-venom. Fortunately the deadly Copperhead is not aggressive and will always flee if given the opportunity.

This snake is most common near swamps and marshes where large numbers may occur within comparatively small areas. This snake spends most of its time concealed in vegetation and its presence is frequently undetected by both residents and herpetologists.

The Copperhead feeds mainly on frogs, which are abundant, where it occurs. Because the Copperhead feeds on all suitable vertebrates including other snakes, areas with Copperheads often lack other snake species.

In hot weather the Copperhead is crepuscular or nocturnal, otherwise it is diurnal. This snake has a stronger resistance to cold than other snakes, having shorter periods of winter dormancy than other snakes in the same areas.

Mating occurs in early spring with an average of fourteen live young being born in late summer. The young average 20 cm in length. Further notes on Copperheads are given in the paper Melbourne's Snakes Part I, which appeared in Vol. 10 (2) of this journal.

Eastern tiger snake, *Notechis scutatus* (Peters, 1861).

Description

This snake is heavily built with a blunt head only slightly distinct from the neck. Even within the Sydney district this snake's colouration is highly variable dorsally being brown, olive, grey or green, with yellow or cream crossbands formed by lighter edged scales. The belly colour ranges from cream, through yellow and greens to grey, often with a darker colour under the throat and tail.

The scalation is smooth with 15, 17 or 19 mid body rows, 146-185 ventrals, 39-65 single subcaudals, and a single anal. Around Sydney this snake averages 1.2 m in length, rarely exceeding 1.5 m.

Distribution

The Tiger snake is found in all outer suburbs and major bushland areas. It is found around the sand dunes of Botany Bay and Kurnell.

General

This snake has highly toxic venom, being among the deadliest known. Death from its bite can be rapid; even within an hour in exceptional cases. In the last 200 years more people have probably died as a result of Tiger snake bites than from any other type of Australian snake. This snake is only aggressive when agitated. When aroused this snake will flatten its neck and body and lunge forward in various directions striking when possible.

The Tiger snake inhabits most types of habitat, but is most common in swampy country and dandy heathlands. Though usually diurnal, the Tiger snake may become nocturnal in warm weather; particularly juveniles.

Most Tiger snakes are found either active during the day, or under cover such as rubbish, rocks and logs. Tiger snakes feed on most vertebrates small enough to be eaten, particularly frogs.

Mating occurs in early spring, with live young being produced in late summer. Litter sizes range from 19 to 109 but average 35. Young when born measure roughly 18 cm and are



Foto 22: *Vermicella annulata* (Gray, 1841), bandy bandy, West Head, NSW;
foto R.T. Hoser.



Foto 23: *Acanthophis antarcticus* (Shaw & Nodder, 1802), death adder, red male, doodsadder, rood mannetje, West Head, NSW;
foto R.T. Hoser.



Foto 24: *Austrelaps ramsayi* (Krefft, 1864), copperhead,
koperkop, Tarana, NSW;
foto R.T. Hoser.



Foto 25: *Pseudechis porphyriacus* (Shaw, 1794), red-bellied
black snake, roodbuik zwarte slang, Seven Hills, NSW;
foto R.T. Hoser.

occasionally well banded with thick brown and yellow stripes which fade in later life. These bands are thicker and not as well defined as those in young Eastern brown snakes (*Pseudonaja textilis*) (See Melbourne's Snakes Part II, in Vol. 10 (3) of this journal for more details about this species).

Red-bellied black snake, *Pseudechis porphyriacus* (Shaw, 1794). Photo 25.

Description

The Red-bellied black snake has a thick set body with a small head that is only slightly distinct from the neck and body. Dorsally it is a shiny jet black, except for the snout tip which is usually brown in colour, whilst the belly itself is a duller red, pink or white in colour. The underside of the tail is black. The scalation is smooth with 17 mid body rows, 180-210 ventrals, divided anal and 40-65 single and divided subcaudals. This snake averages 1.5 m in length, although 2 m specimens are common and 2.5 m specimens are known.

Distribution

The Red-bellied black snake is found throughout the Sydney region, including built up areas such as Lane Cove, Malabar and Parramatta. It is very abundant on the Cumberland Plain, and common elsewhere.

General

Although the Red-bellied black snake has killed people, its venom is not nearly as deadly as is widely believed. Typical symptoms of this snake's bite are much local pain and swelling, nausea and general sickness. The bite of this snake is a very unpleasant experience. Fortunately this snake is very inoffensive and rarely bites. When agitated and cornered it may flatten its neck and raise its head not unlike a Cobra (*Naja naja*).

This diurnal snake is most commonly found associated with water in the form of creeks, rivers and swamps where it catches most of its food. It feeds mainly on frogs although other vertebrates are eaten. This snake commonly crosses waterways and specimens have been caught swimming in Botany Bay.

Springtime breeding aggregations of this snake occur, as does male combat. When fighting one another male Black snakes are effectively oblivious to all that goes around them. Rarely, if ever do they harm one another when in combat.

In summer from eight to thirty live young are born in membranous sacs, from which they emerge within minutes after birth. The young measure about 18 cm at birth. Male Black snakes are usually larger than females.

Common or Eastern brown snake, *Pseudonaja textilis* (Duméril, Bibron & Duméril, 1854). Photo 26.

Description

The Brown snake has a deep head, distinct from the neck, and has a thin racey build. Dorsally the colour ranges from tan, brown, grey or black. The belly is cream, to light brown or orange, with orange, brown or grey spots in a pattern. Melanistic specimens may be blackish in colour all over. In the Sydney region juveniles have a distinct black and brown banded pattern, which fades within the first few years after birth.

The scalation is smooth with 17 mid body rows, 185-235 ventrals, 45-75 paired subcaudals, and a paired anal. The average adult length is 1.5 m, although 2 m specimens commonly occur.



Foto 26: *Pseudonaja textilis* (Dumeril, 1854), eastern brown snake, oosterlijke bruine slang, juvenile, Saint Clair, NSW; foto R.T. Hoser.



Foto 27: *Pelamis platurus* (Linnaeus, 1766), yellow-bellied seasnake, geelbuik zeeslang, Manly Beach, NSW; foto R.T. Hoser.

Distribution

The Common brown snake is found in all outer suburbs and bushland areas. It is most abundant on the Cumberland Plain, but common everywhere.

General

This species has extremely toxic venom, but fortunately its biting apparatus is not as well developed as in most other deadly snakes. It injects relatively little venom in most bites and its fangs are relatively short, although they can easily penetrate the skin. Brown snakes are very fast moving and highly aggressive. When aroused a Brown snake will hold its neck high, slightly flattened in an S-shape and strike repeatedly at its aggressor. This snake will occasionally chase an aggressor away, striking at it at every opportunity.

This diurnal snake is common in dry country but occurs in all habitats. When resting it utilises any available cover, particularly man made cover in the form of sheets of tin and other such cover.

The Brown snake is an opportunistic feeder, feeding on any suitable vertebrates it comes into contact with. This species has large winter aggregations, with one consisting of thirty individuals being found by Gary Webb at Rooty Hill. These aggregations are maintained in spring for mating purposes. Male combat occurs between rival Brown snakes, and males are generally the larger sex. After spring mating, 10-35 eggs are produced in early summer which hatch some eighty days later. The banded young measure about 27 cm upon hatching. (See Melbourne's snakes, part II, this journal Vol. 10 (3) for more details about this species.)

FAMILY HYDROPHIIDAE

Yellow-bellied sea snake, *Pelamis platurus* (Linnaeus, 1766). Photo 27.

Description

The Yellow-bellied sea snake has a long narrow head, a vertically flattened body and a flat paddle shaped tail. It is of moderately heavy build with the striking colouration of black above with yellow below, with a clear demarkation line. The tail tends to be spotted. The scalation is coarse, with 264-406 ventrals and 47-69 mid body rows. It averages 0.7 m in length.

Distribution

The Yellow-bellied sea snake is the only species of sea snake 'commonly' washed up onto the Sydney beaches. It is occasionally found on all Sydney beaches, although the odds of finding one on a given beach at a given time is very remote.

General

This venomous snake has killed a number of people, although to date no Australians are believed to have died from the bite of this snake. It is closely related to the land dwelling elapids just described, and its venom is also strongly neurotoxic.

No sea snake can cross land well, but this species is better at doing so than most other sea snakes, and because it is deadly it should be treated with caution. Fortunately no sea snake is normally aggressive.

The yellow-bellied sea snake is the only true pelagic or ocean going type of sea snake, and has a wider distribution than any other serpent on earth, being found throughout the Indian and Pacific oceans. Only occasionally are specimens found on Sydney beaches, usually sick specimens or specimens washed up in storms.

The yellow-bellied sea snake, though similar in many respects to elapids, differs strongly in its adaptations to a marine existence. Respiration is by long which only fill with air when the snake's snout is above the sea surface. A special valve-like flap prevents entry of water while

the snake is submerged. Sea snakes are able to rapidly dive deeply and surface without getting that human affliction called 'the bends' caused by air bubbles forming in the blood stream. The Yellow-bellied sea snake feeds on fish and small eels.

Sea snakes often occur in large aggregations in some areas, numbering hundreds or even thousands of individuals. The purpose of these aggregations is not certain. Little is known of the breeding biology of the yellow-bellied sea snake except for the fact that it is a live bearer, having an average brood of four to ten young. The size of new born young is not known.

SNAKEBITE FROM SYDNEY'S DANGEROUS SNAKES AND ITS TREATMENT

Snakebite should always be taken seriously. Most snakebite deaths in Australia result from the victim not taking the bite seriously or not treating the bite properly. Even if a snakebite is only suspect, or there was a chance that the snakebite was not from a harmless variety, it is better to go to hospital rather than wait for symptoms to occur, at which stage it may be too late to save the person. Hospitals store anti-venoms as well as other valuable aids to the survival from snakebite.

Snake venoms give varying symptoms to different people and often their effects are not felt for over 24 hours. Snake bites are not always visible and it is dangerous to assume that when no punctures are visible that no bite has occurred.

A snakebite victim should never be given a sedative such as alcohol or a stimulant such as strychnine or coffee, nor should they be allowed to move unless totally necessary as all of these will increase the rate at which the venom reaches the heart. If one is bitten while alone, walk, do not run for help.

Australia's deadly snakes have neurotoxins as the principal deadly component of their venoms which means they attack the voluntary muscles and the nervous system. Death is usually the result of suffocation caused by blockage of the respiratory passage by some means. One should remember that nowadays death from snakebite is very rare.

Snakebite treatment has changed significantly over recent years. The treatment most commonly recommended by experts now in the event of snakebite is the following:

- Apply a firm, broad constrictive bandage at the site of the bite.
- Immobilise the limb and if possible, the whole person.
- Reassure the patient, as stress is an unwanted harmful factor.
- Get medical treatment, in particular anti-venom if required. If possible alert the local hospital of the impending arrival of the patient.

DON'TS ABOUT SNAKEBITE AND ITS TREATMENT

- Do not cut the wound, or use Condy's crystals (potassium permanganate) in treatment.
- Do not use a tourniquet, unless you do not have access to something that can be used as a broad constrictive bandage.
- Do not suck the wound.
- Never amputate the limb as the risk of infection will be greater than that from the actual bite.
- Do not try to catch or kill the snake for identification purposes, as the risk of further bites is an unwanted factor. The use of a polyvalent snake anti-venom does not make positive identification a crucial factor in snakebite treatment.
- Do not restrict free chest movement or breathing activity by the patient.